

REMARKS/ARGUMENTS

Favorable reconsideration of this application is requested in view of the above amendments and in light of the following remarks and discussion.

Claims 1, 2, 6, 7 and 11 are pending in the application. Independent claims 1, 6 and 11 are amended by the present amendment. Support for the changes to the claims is self-evident from the originally filed disclosure, at least in Figure 9, and therefore no new matter is added.

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Okino (U.S. Patent No. 5,754,705); Claims 1, 2, 6 and 7 were rejected under 35 U.S.C. §103(a) as unpatentable over Okino in view of Itoh (U.S. Pat. No. 5,305,310).

It is requested that the rejections of the claims be withdrawn, and the claims allowed, for the following reasons.

Claim 1 recites, in part,

a control unit configured to control the transfer of image data to predetermined destinations;

a switch configured to divide the image data into $m \times n$ pixels based on a first command from the control unit, the image data having n lines with m pixels per line, the switch further configured to transfer each one of the n lines of the image data to one of the predetermined destinations based on a second command from the control unit;

a storage unit including $(n-1)$ number of memories each configured to store one line of the n lines of the image data;

a compression unit configured to batch compress the image data of $m \times n$ pixels based on a third command from the control unit,

wherein said control unit is further configured to:

control said switch to directly transfer $(n-1)$ lines of the n lines of the image data to a first destination of the predetermined destinations, the first destination being the $(n-1)$ number of memories,

directly transfer a remaining one line of the n lines of the image data directly to a second destination of the predetermined destinations, the second destination being said compression unit; and

control the storage unit to transfer the (n-1) lines of the image data stored in the (n-1) number of memories to said compression unit simultaneously with the direct transfer of said remaining one line of the n lines of the image data to said compression unit.

Claims 6 and 11 recite similar features.

Okino describes an image sensor having a light receiving section. Further, the background discussion of Okino states that “data of the first through seventh column is first stored in the buffer memory before being supplied to the compression processor, whereas the data of the eighth column is directly supplied to the compression processor, without being stored in the buffer memory.”

As acknowledged in the outstanding Action, Okino does not describe or suggest a control unit configured to control the transfer of image data to predetermined destinations. The outstanding Action, states “[h]owever, Okino, in column 5, lines 15-30, teaches to use a controlling unit to control the entire image processor in his invention. Since the conventional invention discussed by Okino is not controlled by human, it requires some kind of controlling device to control the timing of the operation. Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the conventional invention to include: controlling unit to control the entire image processor in order for the convention invention (image processor) to be properly functioning.”

However, although Okino describes a control processor with respect to the system described in Figure 3, the portion of Okino cited against Claim 1 of the present invention refers to the system shown in Figures 2A-2B found in the background art section of the Okino reference. Nevertheless neither the system in Figure 3 of Okino nor the system illustrated in Figures 2A-2B of Okino describe or suggest that a control unit controls the switch, the input/output of the memory and the compression of the data as is recited in Claim 1.

In a non-limiting example illustrated in Figure 9 of the present specification, it can be seen that the command control unit (410) is connected to and controls the processing in each of the switch (903) the memory (901) and the compression device (902). The use of the control unit in this manner ensures that the timing of the data flow into and out of the devices 901-903 is correct. In addition, if there is an error in one of the devices, such as the switch 903 or the compression device 902, the control unit 410 can ensure that a quick recovery is made as the control unit is control of the entire process from beginning to end.

As noted above, the outstanding Action states that “[s]ince the conventional invention discussed by Okino is not controlled by human, it requires some kind of controlling device to control the timing of the operation.” However, Applicants respectfully traverse this assertion as the system illustrated in Okino could clearly operate without a control unit using only a simple counter circuit or alternatively the system of Figure 2A could operate using a simple clock signal. Nevertheless the system recited in Claim 1 in which a control unit controls each portion of the process is not obvious and necessary for the system shown in Figure 2A of Okino to operate.

Nowhere does Okino describe or suggest that a switch divides the image data into $m \times n$ pixels based on a first command from the control unit. Further Okino does not describe or suggest that the switch transfers each one of the n lines of the image data to one of the predetermined destinations based on a second command from the control unit. Finally, Okino does not describe or suggest that the compression unit batch compresses the image data of $m \times n$ pixels based on a third command from the control unit.

Itoh describes a packet forwarding system in which data is stored in a buffer using a switch. However, Itoh does not cure the above noted deficiencies of Okino.

Accordingly, Applicants respectfully submit that Claim 1 patentably distinguishes over Itoh and Okino considered individually or in any proper combination.

For these reasons, it is requested that the rejection of independent claim 1 be withdrawn. The allowance of independent claim 1 is therefore requested.

Independent claims 6 and 11 are allowable for reasons similar to those discussed with respect to independent claim 1. Thus, the allowance of independent claims 6 and 11 is requested.

Claims 2 and 7 are allowable for the same reasons as independent claims 1 and 6 from which they depend, as well as for their own features, particularly in combination with the features recited in the independent claims. The allowance of dependent claims 2 and 7 is therefore requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

Respectfully submitted,

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